NGC-UIT LOADER UTILITY

FOR PARAMETER UPLOAD AND DOWNLOAD

INSTALLATION AND OPERATION MANUAL

For Loader program Version 1.04

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Section 1 **Introduction**

1.1 Welcome

This manual provides instructions for use of parameter upload and download for Raychem NGC-30 Heat-Tracing Control and Monitoring System. The parameter upload utility simplifies the configuration of multiple circuits by providing the ability to mass upload the configuration data into the Raychem NGC User Interface Terminal.

1.2 User Responsibilities

The performance, reliability and safety of your heat-tracing system depend on proper design, selection and installation. The Raychem NGC-UIT Loader Utility will help you configure and update Raychem NGC-30 Heat-Tracing Control and Monitoring System, but it is only a tool. It assumes that your input is accurate, that you are familiar with heat-tracing system design and configuration, and that you will ensure that the uploaded configuration of the heat-tracing system is installed, maintained and used as intended. The Raychem NGC-UIT Loader Utility should be used under supervision of a knowledgeable engineer to ensure it is used appropriately.

1.3 Safety Warnings

There are important safety warnings shipped with our products and printed in our literature. Be sure to read and follow them to reduce the risk of fire, shock or personal injury. If you have any questions, contact your local representative or Pentair Industrial Heat Tracing Solutions directly.

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Pentair Thermal Management, LLC

User Interface Terminal (UIT) Loader Program Software License Agreement

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16. **HEADINGS.** The section titles in this Agreement are for convenience only.
17. **SURVIVABILITY.** You agree that the terms and conditions of this Agreement shall survive any termination of this Agreement and your rights to use the Software.
18. **ACKNOWLEDGEMENT.** You hereby acknowledge that you have read this Agreement, understand it and agree to be bound by its terms and conditions, and that this Agreement may be executed by installation and use of the NGC-UIT Loader Utility software.

1.5 Technical Support

For technical support, contact your local Pentair Industrial Heat Tracing Solutions Representative or Sales Office. Pentair Industrial Heat Tracing Solutions Representatives can be located using the locator feature on our website.

http://www.pentairthermal.com/support/where-to-buy/index.aspx

1.6 System Requirements

The following equipment will be necessary to use the firmware upgrade and parameter upload utilities presented in this manual.

- USB Flash Drive — 128MB, USB Protocol 2.0 or higher.
- A Pentium® III — 500MHz or faster (Recommended), Pentium II – 300 MHz (Minimum) IBM-compatible personal computer
- A hard disk with at least 50 megabytes of free space
- 256 megabytes of RAM (Recommended), 128 megabytes of RAM (Minimum)

- CD-ROM Drive
- USB port supporting USB protocol 2.0 or higher
- A mouse or other compatible pointing device
- SVGA display with 800x600 resolution
- Microsoft® XP Pro, Windows XP Home, or Windows 2000
- Microsoft® Excel
- Network connectivity

Section 2 Raychem NGC-UIT Parameter Upload and Download Utility

The Raychem NGC-UIT Loader Utility allows users to easily transfer circuit configuration data from legacy 200N Systems to the Raychem NGC User Interface Terminal (UIT). This utility presently does not support transfer of circuit configuration data from Raychem 910, 915, 920, T2000 or other legacy controllers.

The Loader Utility also provides an Excel spreadsheet template to quickly enter or edit circuit parameter data. These Excel files can then be loaded into the Raychem NGC-UIT simplifying retrofit or new system installations. This makes installation of the circuit configuration fast and easy.

This manual supports Loader Program V1.05 and its associated Excel Spreadsheet. There are dependencies between the software versions of the NGC-30 UIT, the Loader Program and the Excel spreadsheet. If all three parameters are not updated appropriately, errors may occur in the NGC-30 programming.

Loader Program & Raychem NGC-30 UIT Software Compatibility -The Loader Program V1.04 or higher can be used with the NGC-30 UIT software versions 1.18 or lower. The Loader program//Excel Spreadsheet versions lower than 1.03.XX can NOT function with the UIT software v1.17.XX and beyond since not all configuration parameters from the Excel Spreadsheet will be uploaded.

Loader Program & Excel Spreadsheet Compatibility - The Loader Program V1.04 or higher is backward compatible with the older spreadsheet versions. However, the Excel Spreadsheet is not backward compatible. The Excel Spreadsheet created by the Loader program version 1.18 cannot function with the Loader Program versions lower than 1.18. It is strongly recommended to use the Excel Spreadsheet template labeled “NGC30_UIT setup Spreedsheet.xls” that is located in the same sub-directory where the Loader Program is residing.

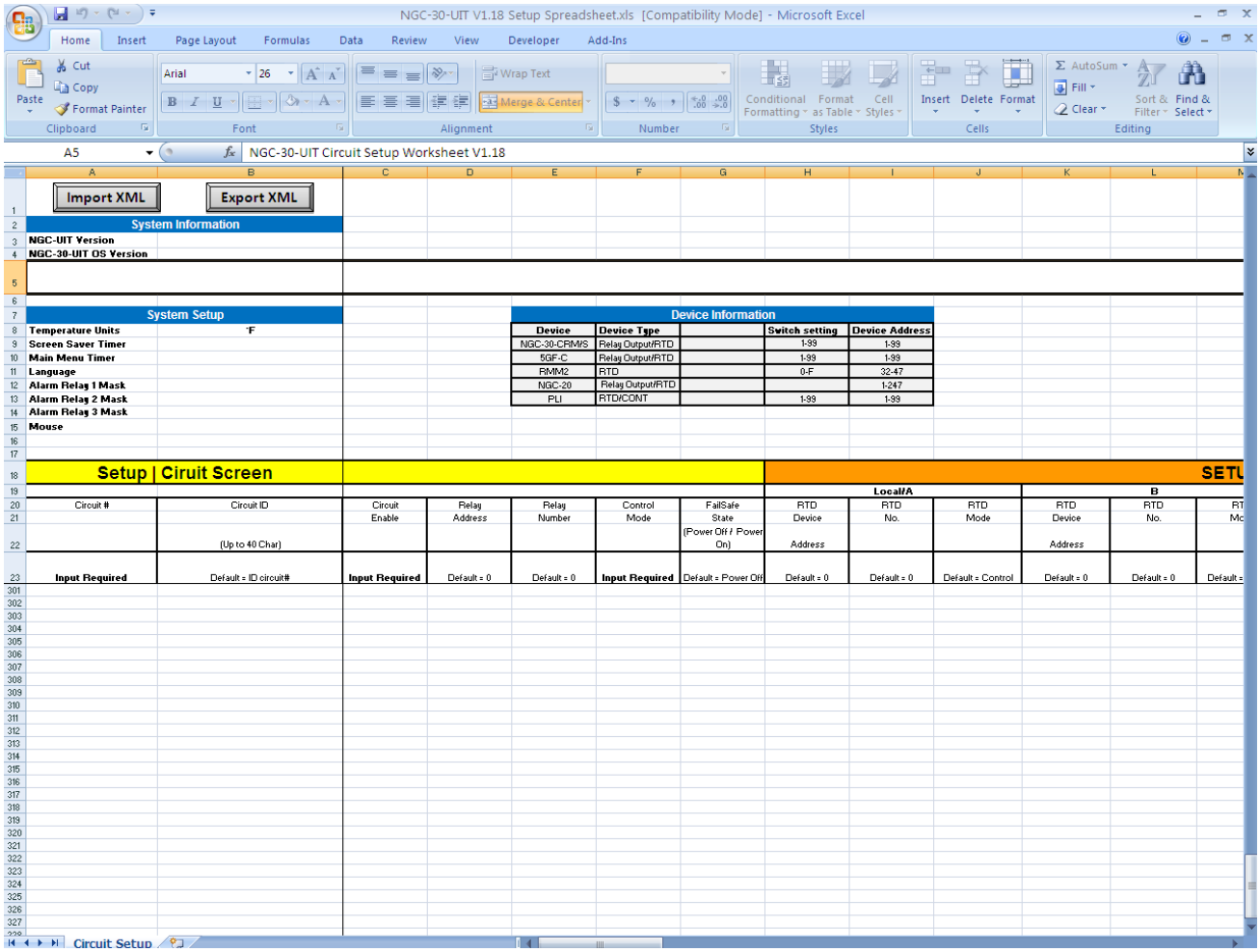
At the date this Manual is issued, the latest Loader Program version is v1.05, the latest UIT Software Version is 1.18 and the Latest Raychem Supervisor Version is 2.3.

2.1 Excel Spreadsheet – Circuit Configuration Data

Step 1

- Once you have run the setup program to your computer’s hard disk, find the Excel spreadsheet labeled **NGC30_UIT setup Spreedsheet.xls**.

Step 2



- Open the **NGC30_UIT setup Spreedsheet.xls** spreadsheet and select **Enable Macros**. The Excel spreadsheet is a predefined template listing all the required information to setup a circuit in the Raychem NGC-30 system.
- Start with the **System Information**, if known. Otherwise, this section will be filled out automatically when the XML file is imported into the .NGC-30 UIT Setup spreadsheet (will be explained in more details in the next sections of this manual).
- Fill out the required information in the **System Setup** section of this spreadsheet. The temperature unit selection (°F or ºC) is also included in this section.
- In the main body of the Spreadsheet, Fill in all relevant information for each circuit you wish to program into the Raychem NGC System. For some configuration inputs, pull-down menus have been provided to guide with the acceptable ranges and values for each field.
  In the program an algorithm has been added to check the validity of the inputs and a warning will be displayed if the input value is not in the acceptable range. However, the spreadsheet is not able to validate the input values if the data is copied and pasted from another field. Potential errors could be prevented by copying and pasting the data from one cell of a column to the other cell of the same column only. You do not need to input information if the default setting is correct.

Step 3

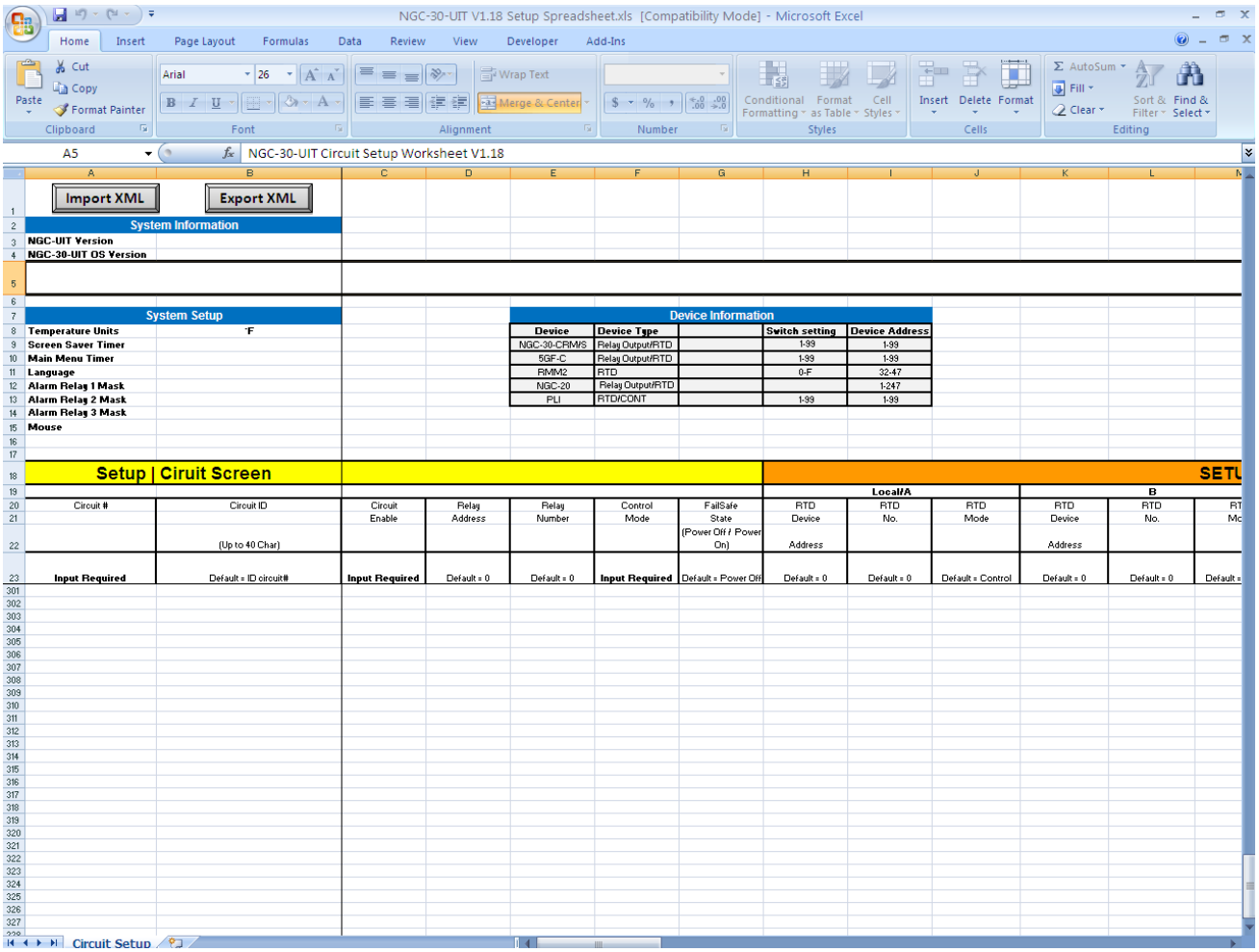
- Once you have entered all the required data, you need to save the spreadsheet as an .xls file in case further editing is required and an XML file for the Raychem NGC-UIT to process the information.

- To save the file as an .xls file:
- Click on **File** at the top
- Click on **Save As** and rename the file

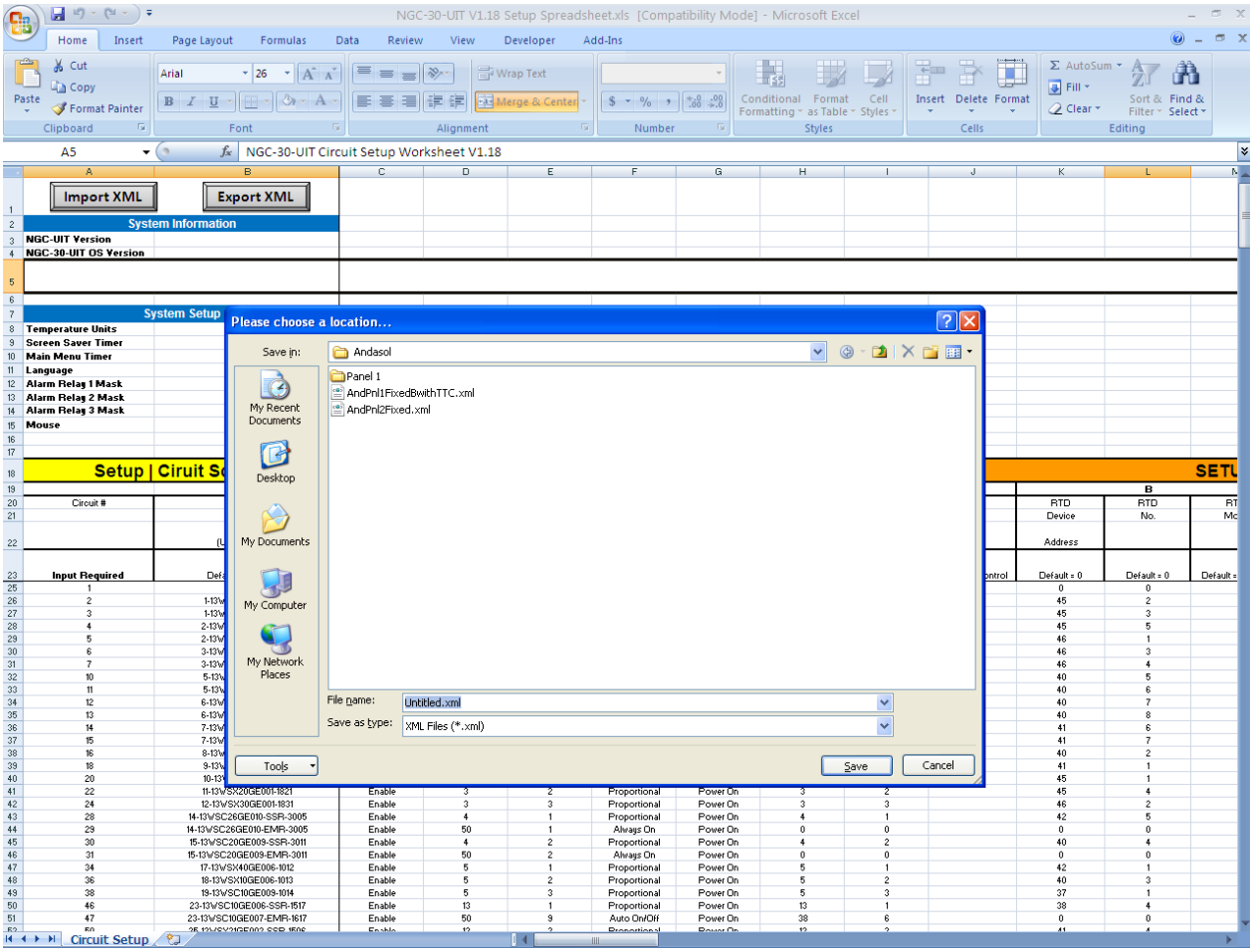
- Click on **Save in**: to direct where you want to save the spreadsheet
- Click on **Save** (This will save the file as a .xls file)

Step 4

- Press the **Export XML** Button on the top of the Excel Spreadsheet.



- A dialogue box will open to select the file that should be exported.



- Fill in the new file name
- Insert your USB flash drive into your computer's USB port
- Click on **Save in**: to direct you to the flash drive
- Click on **Save** (This will save the file as an .XML file. You may also want to save the file to your hard disk for future reference)

2.2 Importing XML Files into the NGC-UIT

There are two methods for importing the created spreadsheet/xml file to the NGC-UIT. One of the methods is using a memory stick and the USB port on the NGC-UIT. The second method is using the NGC-30 Loader Utility Program.

2.2.1 Importing the .XML configuration file using the memory stick / USB port method

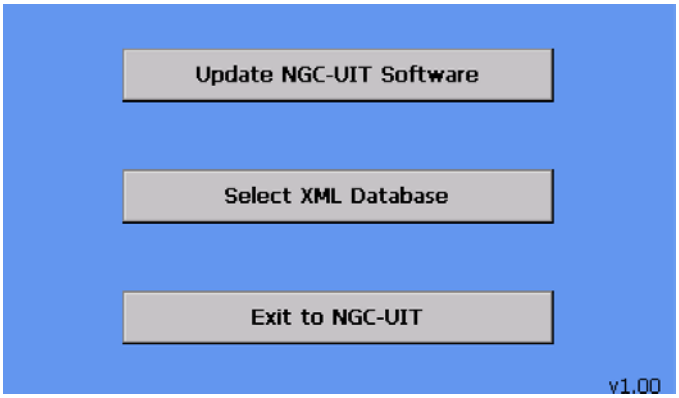
Step 1

- Insert the USB flash drive with the .XML configuration file into the left side of the Raychem NGC-UIT as shown in the figure below.

Step 2

Step 2A (For UIT Software versions 1.17.34 and lower)

- For UIT Software versions 1.17.34 and lower, the User Interface Terminal must have power cycled to recognize a USB memory stick. Recycle power to the Raychem NGC-UIT. This can be accomplished by pressing the RESET button on the side of the NGC-UIT or turning off and then on the control circuit breaker. Once the Raychem NGC-UIT program has rebooted with the flash drive in the USB port, the program will automatically display a screen with two or three options depending on the contents saved on the memory stick. The screen shows always two options **"Select XML Database"** and **"Exit to NGC-UIT"**. If a version of the UIT Software "Setup" is also saved on the same memory stick, the screen will show three options as indicated below.

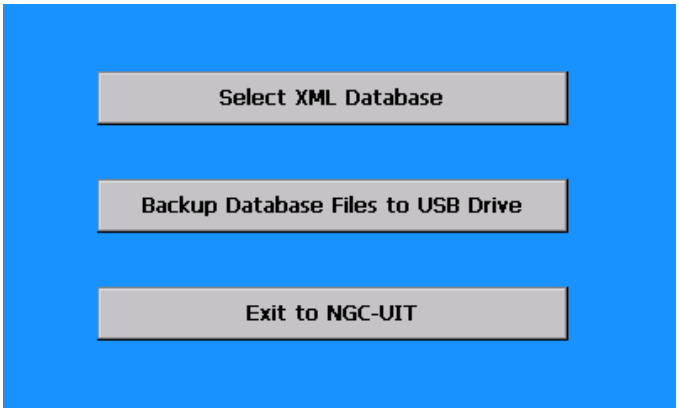


Step 2B (For UIT Software version 1.17.35)

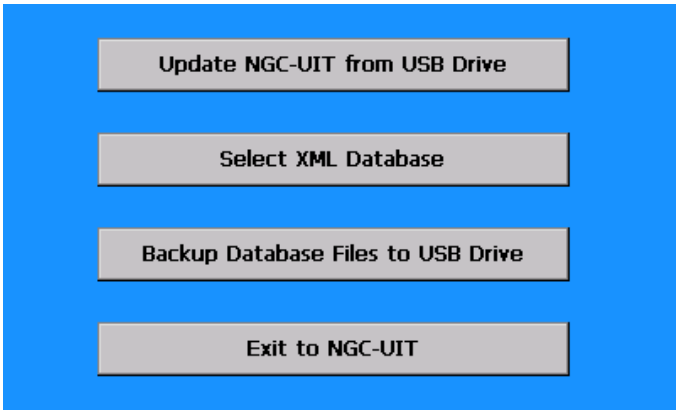
- The UIT Software versions 1.17.35 and higher do not require power cycle. The NGC-UIT can recognize the USB stick with or without power cycling.

  If the power cycle option is implemented, refer to Step 2A for the details and screenshots.

  If no power cycle option is used, insert the USB flash drive with the XML file into the left side of the Raychem NGC-UIT while NGC-UIT Program is running. Wait approximately one minute until the program displays the selection screen. This screen will indicate three options, as shown below:



- If a version of the NGC-30 UIT Software is also saved on the same USB flash drive, this screen will indicate four options, as shown below:



Step 3

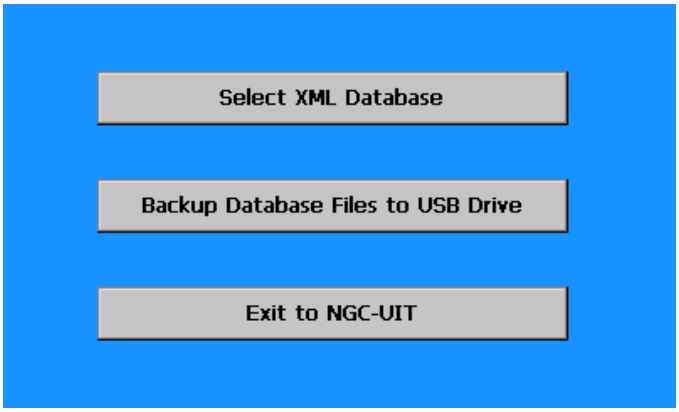
- Choose the **Select XML Database** option by pressing that button on the screen.

Step 4

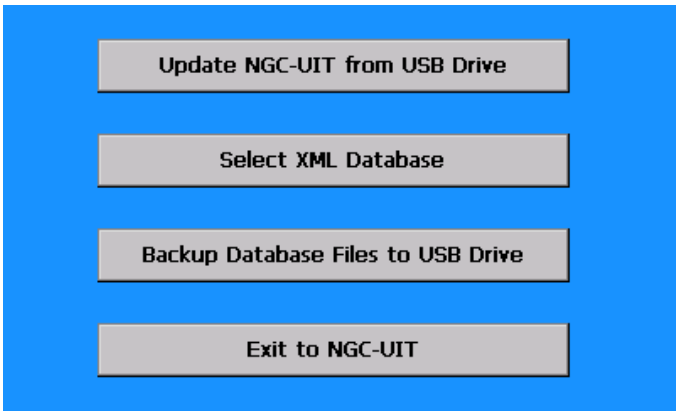
- The program will list the XML files that are on your flash drive. Choose the one you wish to load and press the **OK** button at the upper right hand corner of the screen.
- The program will prompt you if you want to overwrite existing database, select yes. Once you have selected yes, the program brings you back to the above screen.
- Press **Exit to NGC-UIT**, and remove the flash drive from the USB port once the Raychem NGC-30 main screen appears.

Step 2C (For UIT Software versions 1.18 and higher)

- The UIT Software versions 1.18 and higher do not require power cycle. While the program is running, insert the USB flash drive with the XML file into the left side of the Raychem NGC-UIT.
  Wait approximately one minute until the program displays the selection screen. This screen will indicate three options, as shown below:



- If a version of the NGC-30 UIT Software is also saved on the same USB flash drive, this screen will indicate four options, as shown below:



Step 3

- Choose the **Select XML Database** option by pressing that button on the screen.

Step 4

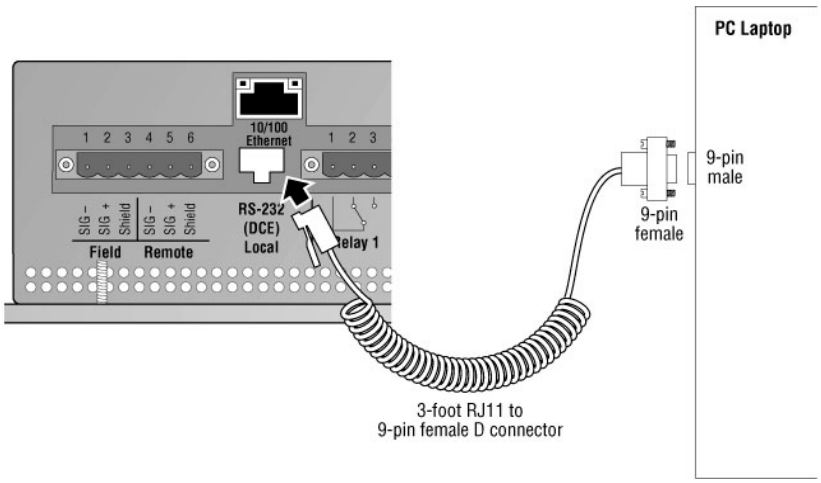
- The program will list the XML files that are on your flash drive. Choose the one you wish to load and press the **OK** button at the upper right hand corner of the screen.
- The program will prompt you if you want to overwrite existing database, select yes. Once you have selected yes, the program brings you back to the above screen.
- Press **Exit to NGC-UIT**, and remove the flash drive from the USB port once the Raychem NGC-30 main screen appears.

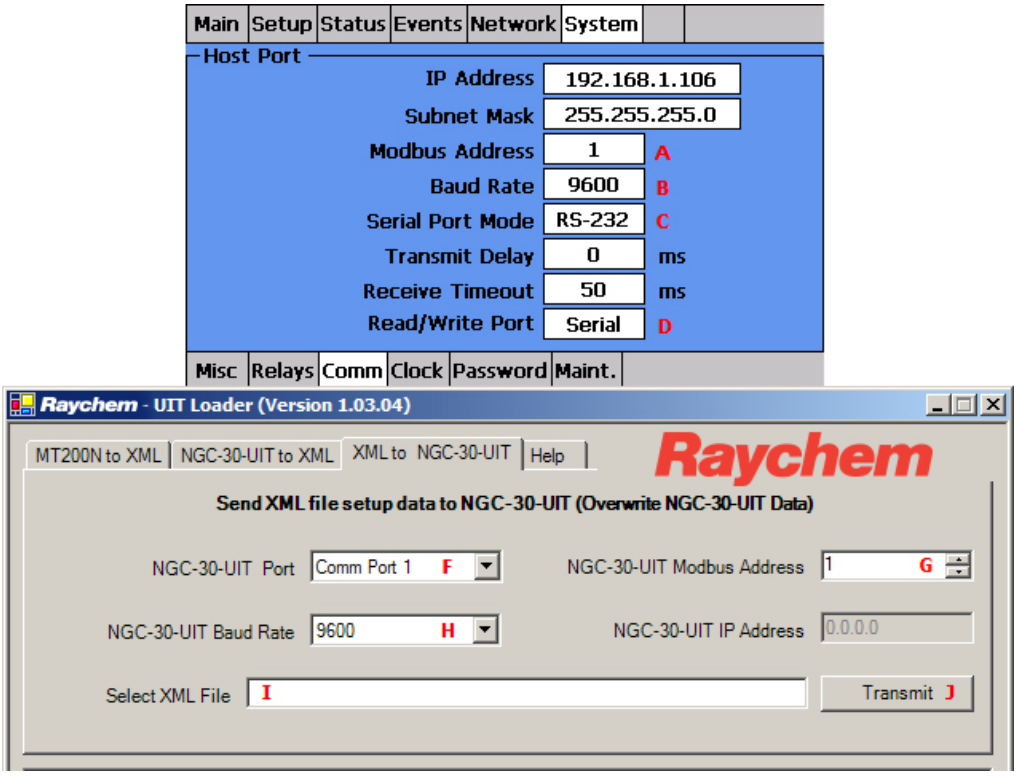
2.2.2 Importing the .XML configuration file using the loader utility program

The NGC-UIT can be connected to a PC laptop, running the Loader Utility Program via three methods: 1) RS232 Connection 2) RS-485 Connection 3) Ethernet Connection

RS232 Connection

The RS-232 port can be used as a direct connection to a single PC located within 15 meters (50 feet) of the panel. For an RS-232 connection, a 3-foot long RJ11 to 9-pin female D-connector (Raychem NGC-UIT-232, part number: 10332-005) has been provided with the Raychem NGC-UIT. Plug the RJ 11 connector into the RS-232 connector on the Raychem NGC-UIT and the other end into the 9-pin male connector on the user's computer.





Step 1

- Connect a laptop computer to the Raychem NGC-UIT via the RS-232 port.

Step 2

- Start the Raychem UIT Loader program by clicking on the icon on your desk top or by going to Start menu/Programs/Pentair Industrial Heat Tracing Solutions /Raychem
- Click on the **XML to NGC-UIT** tab near the top of the window.

Step 3

- Set the **NGC-UIT Port** to the port that will be used to communicate to the NGC-UIT (Label F).
- Set the Raychem **NGC-UIT Baud Rate** and **NGC-UIT Modbus Address** so that it matches the settings on the NGC-UIT's **System|Comm** screen (Label A/G and Label B/H consecutively).
- Set the Raychem **NGC-UIT's Serial Port mode** is **RS-232** (Label C).
- Set the Raychem **NGC-UIT's Read/Write Port** to **Serial** (Label D).

Step 4

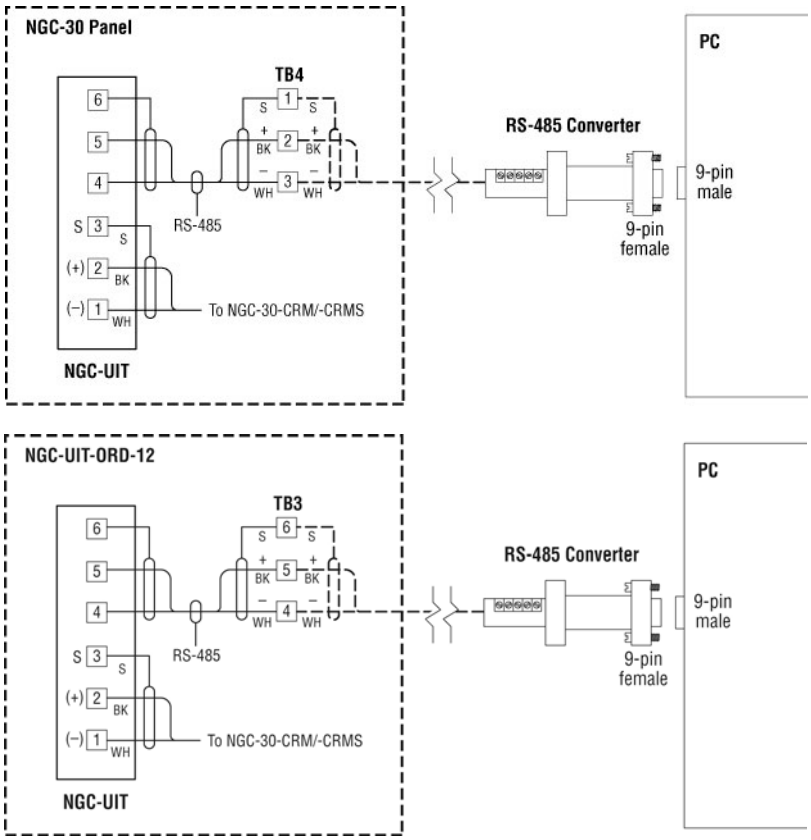
- Click on the **Select XML File** (Label I) text field to bring up the **Select XML File to Download** dialog box.
- Select the file you wish to send to the NGC-UIT.
- Click on **Open**. This will fill in the **Select XML File** text field with the path where the XML file is located.

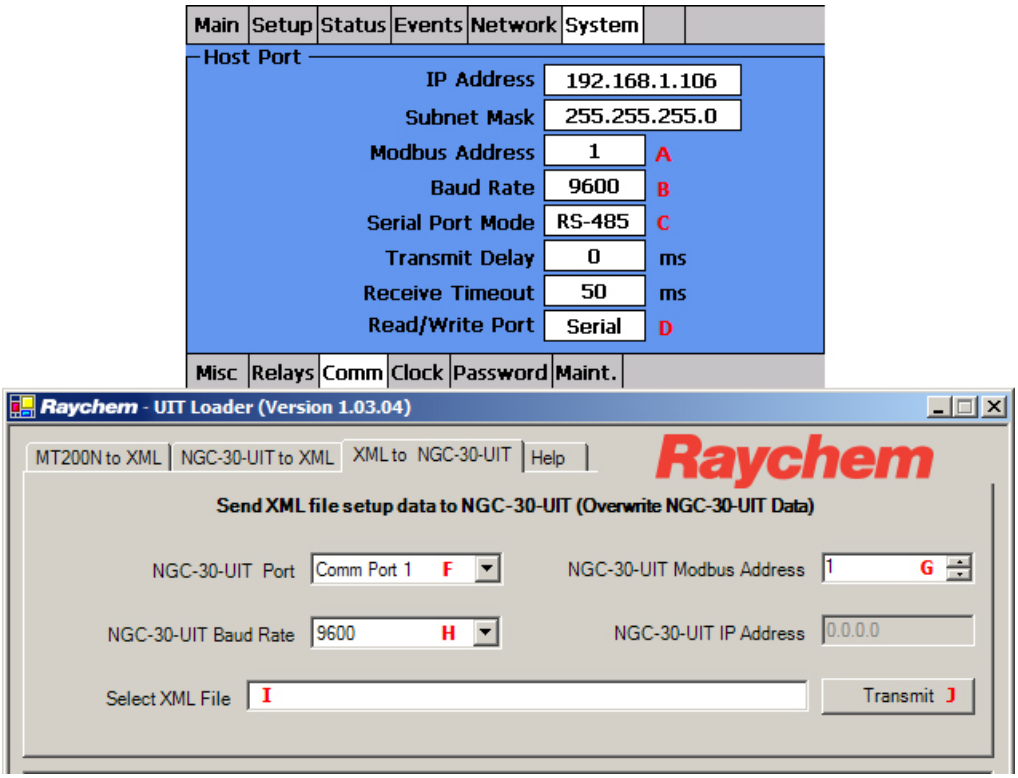
Step 5

- Click on the **Transmit** button (Label J). The program will then send the data from the XML file to the Raychem NGC-UIT.

RS-485 Connection

Use the RS-485 port when multiple Raychem NGC-UIT units are to be connected to a host computer or the connection is longer than 15 meters (50 feet). A converter may be required to make the connection to the user's PC. Depending on the available ports on the PC, an RS-485 to RS-232 or an RS-485 to USB converter may be used.





Step 1

- Connect a laptop computer to the Raychem NGC-UIT via the RS-485 port.

Step 2

- Start the Raychem UIT Loader program by clicking on the icon on your desk top or by going to Start menu/Programs/Pentair Industrial Heat Tracing Solutions/Raychem
- Click on the **XML to NGC-UIT** tab near the top of the window.

Step 3

- Set the **NGC-UIT Port** to the port that will be used to communicate to the NGC-UIT (Label F).
- Set the Raychem **NGC-UIT Baud Rate** and **NGC-UIT Modbus Address** so that it matches the settings on the NGC-UIT's **System|Comm** screen (Label A/G and Label B/H consecutively).
- Set the Raychem **NGC-UIT's Serial Port mode** is **RS-485** (Label C).
- Set the Raychem **NGC-UIT's Read/Write Port** to **Serial** (Label D).

Step 4

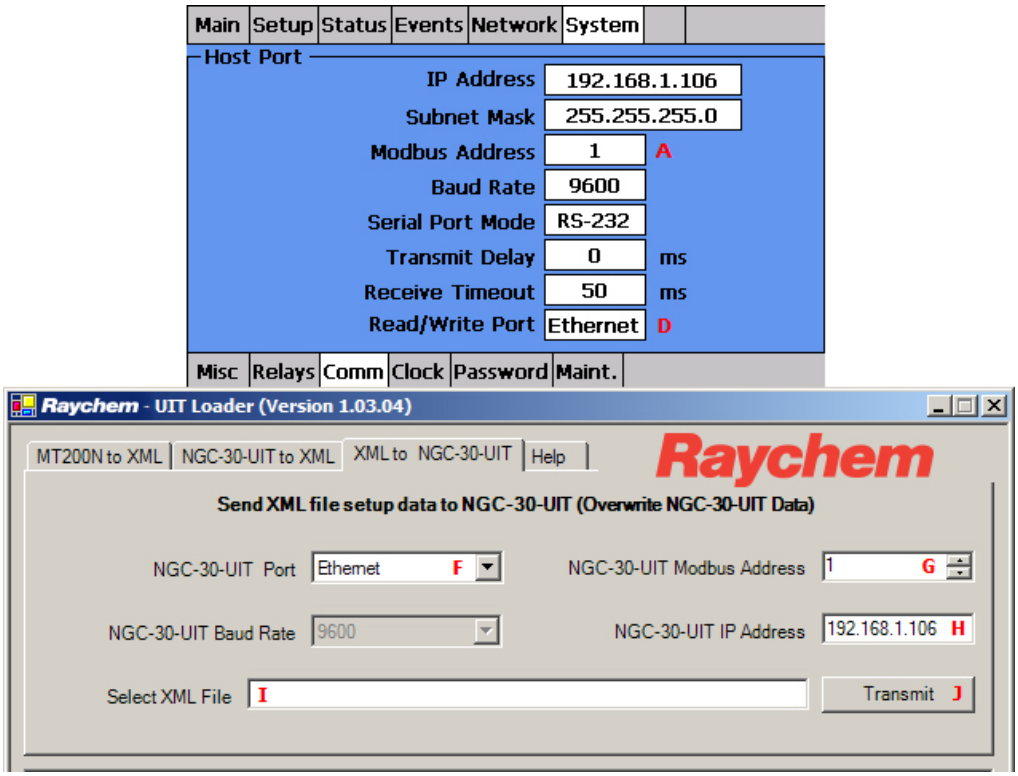
- Click on the **Select XML File** (Label I) text field to bring up the **Select XML File to Download** dialog box.
- Select the file you wish to send to the NGC-UIT.
- Click on **Open**. This will fill in the **Select XML File** text field with the path where the XML file is located.

Step 5

- Click on the **Transmit** button (Label J). The program will then send the data from the XML file to the Raychem NGC-UIT.

Ethernet Connection

Connect an Ethernet cable from the Raychem NGC-UIT to a PC with a crossover cable. An alternative method would be to connect both the NGC-UIT and the PC to a device such as a server or a consumer router. See Appendix 1 for additional information.



Step 1

- Connect a laptop computer to the Raychem NGC-UIT via the Ethernet port.

Step 2

- Start the Raychem UIT Loader program by clicking on the icon on your desk top or by going to Start menu/Programs/Pentair Industrial Heat Tracing Solutions /Raychem
- Click on the **XML to NGC-UIT** tab near the top of the window.

Step 3

- Set the **NGC-UIT Port** to **Ethernet** (Label F).
- Set the Raychem **NGC-UIT IP Address** and **NGC-UIT Modbus Address** so that it matches the settings on the NGC-UIT's **System|Comm** screen (Label A/G and Label B/H respectively).
- Set the Raychem **NGC-UIT's Read/Write Port** is **Ethernet** (Label D).

Step 4

- Click on the **Select XML File** (Label I) text field to bring up the **Select XML File to Download** dialog box.
- Select the file you wish to send to the NGC-UIT.
- Click on **Open**. This will fill in the **Select XML File** text field with the path where the XML file is located.

Step 5

- Click on the **Transmit** button (Label J). The program will then send the data from the XML file to the Raychem NGC-UIT.

2.3 Backup the NGC-30 UIT Database

For NGC-30 UIT Software versions 1.18 and higher, there are two methods to backup the heat-tracing configuration data (.XML file) from the NGC-30 UIT. One of the methods is using a memory stick and the USB port on the NGC-30 UIT. The second method is using the NGC-30 Loader Utility Program.
For NGC-30 UIT Software versions lower than 1.18, the second method, using the Loader Utility Program, is the only method available.

2.3.1 Backup the .XML configuration file using the memory stick / USB port method

(For the NGC-30 UIT Software versions 1.18 and higher)

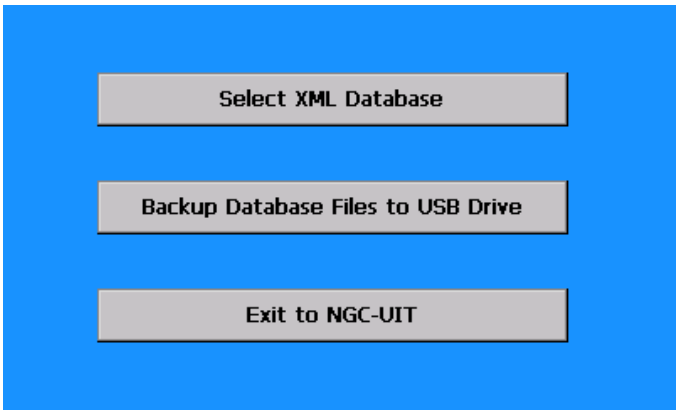
Step 1

- While the NGC-30 UIT Program is running, insert the USB flash drive with the .XML configuration file into the left side of the Raychem NGC-UIT as shown in the figure below.

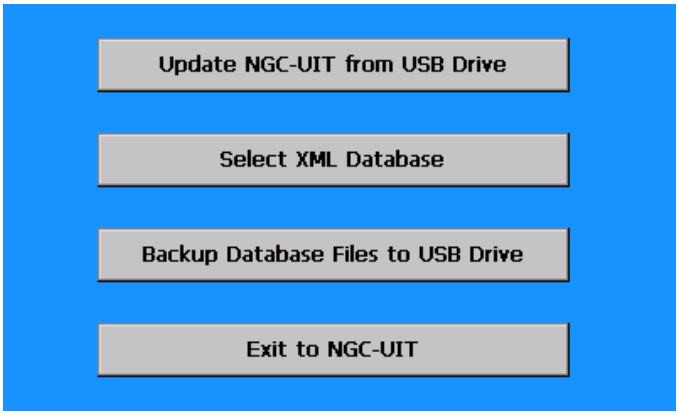
.

Step 2

Wait approximately one minute until the program displays the selection screen. This screen will indicate three options, as shown below:



- If a version of the NGC-30 UIT Software is also saved on the same USB flash drive, this screen will indicate four options, as shown below:



Step 3

- Choose the **Backup Database Files to USB Drive** option by pressing that button on the screen.

Step 4

- Wait till the loading process is complete.

Step 5

- The Program creates the following folder on the USB memory stick: NGC-UIT/ BackupUITAddress-001 and will save the configuration backup file, in .XML Format, in this folder. The configuration backup file will be automatically named by the program **"CircuitDataBase.XML".**

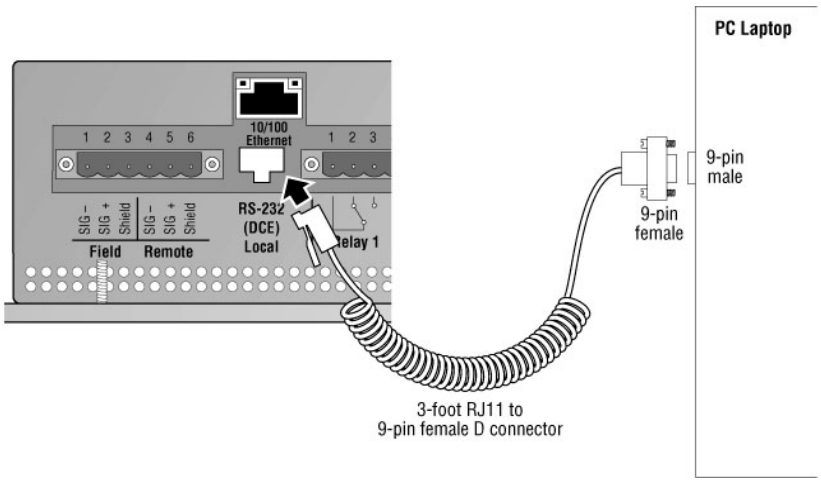
IMPORTANT: If another backup file with the same name exists on the same USB stick, the file will be overwritten with no warning.

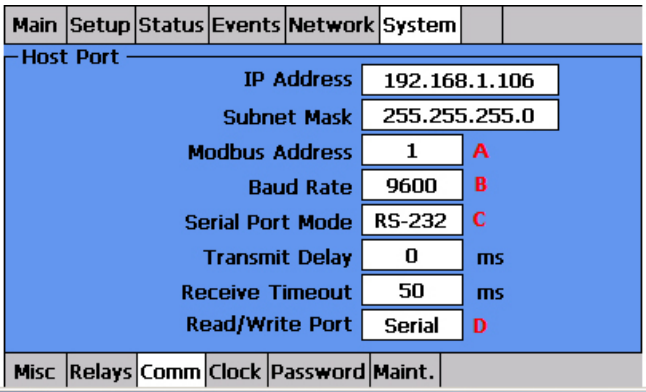
2.3.2 Backup the NGC-30 .XML configuration file using the loader utility program

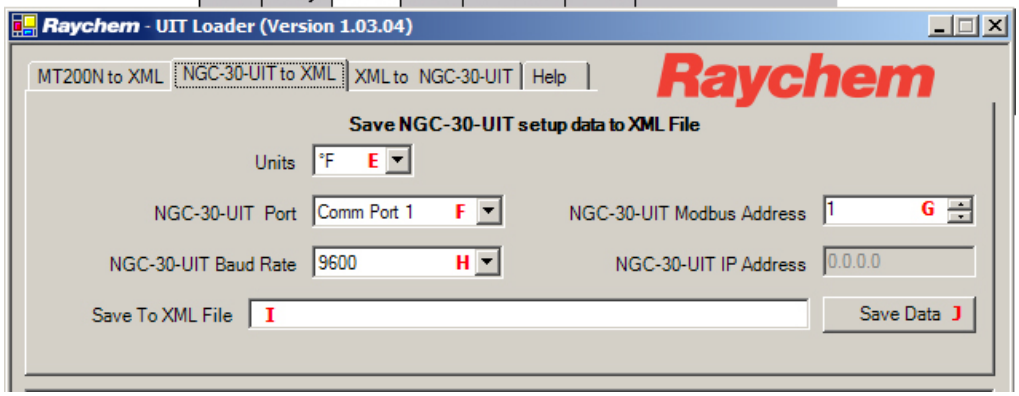
The NGC-UIT can be connected to a PC laptop, running the Loader Utility Program via three methods: 1) RS232 Connection 2) RS-485 Connection 3) Ethernet Connection

RS232 Connection

The RS-232 port can be used as a direct connection to a single PC located within 15 meters (50 feet) of the panel. For an RS-232 connection, a 3-foot long RJ11 to 9-pin female D-connector (Raychem NGC-UIT-232, part number: 10332-005) has been provided with the Raychem NGC-UIT. Plug the RJ 11 connector into the RS-232 connector on the Raychem NGC-UIT and the other end into the 9-pin male connector on the user's computer.







Step 1

- Connect a laptop computer to the Raychem NGC-UIT via the RS-232 port.

Step 2

- Start the Raychem UIT Loader program by clicking on the icon on your desk top or by going to Start menu/Programs/Pentair Thermal Management/Raychem
- Click on the **NGC-UIT to XML** tab near the top of the window.

Step 3

- Select the temperature **Units** (°F or ºC) (Label E).

IMPORTANT: If the temperature units on the NGC-30 UIT are currently set to ºC and the temperature units on the Loader Programs (see above) are selected as ºF, when the circuit data is imported from the NGC-30 UIT to the Excel Spreadsheet, the temperatures on the Spreadsheet will be in ºF.

- Set the **NGC-UIT Port** to the port that will be used to communicate to the NGC-UIT (Label F).
- Set the Raychem **NGC-UIT Baud Rate** and **NGC-UIT Modbus Address** so that it matches the settings on the NGC-UIT's **System|Comm** screen (Label A/G and Label B/H consecutively).
- Set the Raychem **NGC-UIT's Serial Port mode** is **RS-232** (Label C).
- Set the Raychem **NGC-UIT's Read/Write Port** to **Serial** (Label D).

Step 4

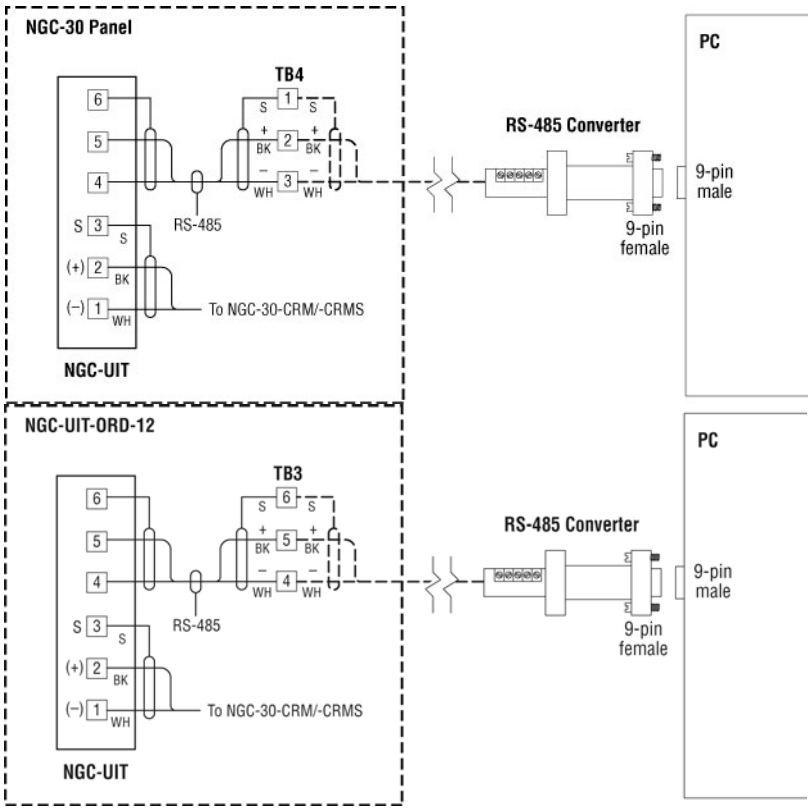
- Click on the **Save To XML File** (Label I) text field to bring up the **Enter XML Filename** dialog box.
- Type in the name of the file that you wish to create in the **File name** text field**.**
- Click on **Save**. This will fill in the **Save To XML File** text field with the path where the next XML file will be saved.

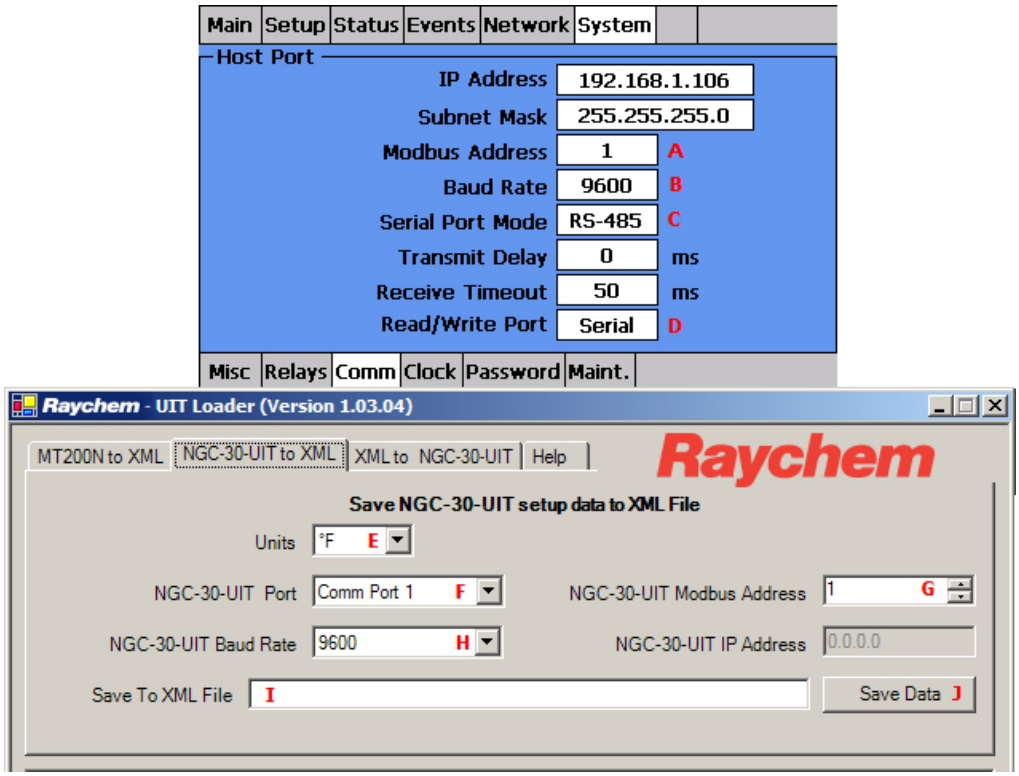
Step 5

- Click on the **Save Data** button (Label J). The program will then extract the required data from the Raychem NGC-UIT and use it to create an XML file.

RS-485 Connection

Use the RS-485 port when multiple Raychem NGC-UIT units are to be connected to a host computer or the connection is longer than 15 meters (50 feet). A converter may be required to make the connection to the user's PC. Depending on the available ports on the PC, an RS-485 to RS-232 or an RS-485 to USB converter may be used.





Step 1

- Connect a laptop computer to the Raychem NGC-UIT via the RS-485 port using an RS-485 to RS-232 or an RS-485 to USB converter.

Step 2

- Start the Raychem UIT Loader program by clicking on the icon on your desk top or by going to Start menu/Programs/Pentair Industrial Heat Tracing Solutions /Raychem
- Click on the **NGC-UIT to XML** tab near the top of the window.

Step 3

- Select the temperature **Units** (°F or ºC) (Label E).

IMPORTANT: If the temperature units on the NGC-30 UIT are currently set to ºC and the temperature units on the Loader Programs (see above) are selected as ºF, when the circuit data is imported from the NGC-30 UIT to the Excel Spreadsheet, the temperatures on the Spreadsheet will be in ºF.

- Set the **NGC-UIT** Port to the port that will be used to communicate to the NGC-UIT (Label F).
- Set the Raychem **NGC-UIT Baud Rate** and **NGC-UIT Modbus Address** so that it matches the settings on the NGC-UIT's **System|Comm** screen (Label A/G and Label B/H consecutively).
- Set the Raychem **NGC-UIT's Serial Port mode** is **RS-485** (Label C).
- Set the Raychem **NGC-UIT's Read/Write Port** to **Serial** (Label D).

Step 4

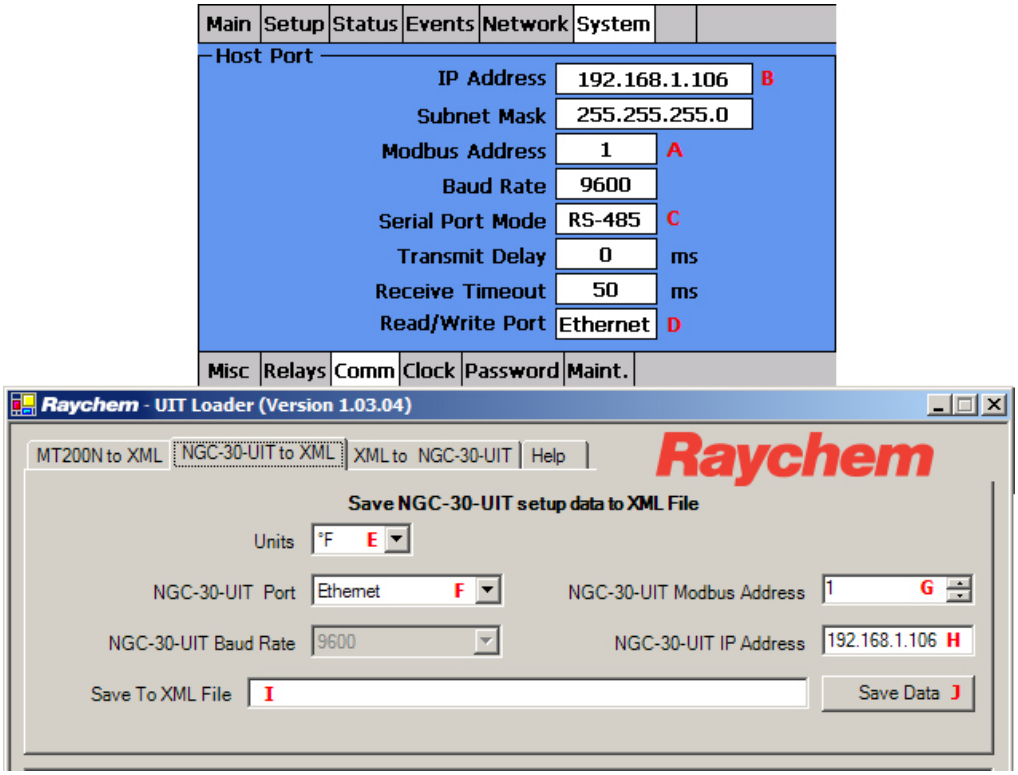
- Click on the **Save To XML File** (Label I) text field to bring up the **Enter XML Filename** dialog box.
- Type in the name of the file that you wish to create in the **File name** text field**.**
- Click on **Save**. This will fill in the **Save To XML File** text field with the path where the next XML file will be saved.

Step 5

Click on the **Save Data** button (Label J). The program will then extract the required data from the Raychem NGC-UIT and use it to create an XML file.

<u>Ethernet Connection</u>

Connect an Ethernet cable from the Raychem NGC-UIT to a PC with a crossover cable. An alternative method would be to connect both the NGC-UIT and the PC to a device such as a server or a consumer router. See Appendix 1 for additional information.



Step 1

- Connect a laptop computer to the Raychem NGC-UIT via the Ethernet port.

Step 2

- Start the Raychem UIT Loader program by clicking on the icon on your desk top
- Click on the **NGC-UIT to XML** tab near the top of the window.

Step 3

- Select the temperature **Units** (°F or ºC) (Label E).

IMPORTANT: If the temperature units on the NGC-30 UIT are currently set to ºC and the temperature units on the Loader Programs (see above) are selected as ºF, when the circuit data is imported from the NGC-30 UIT to the Excel Spreadsheet, the temperatures on the Spreadsheet will be in ºF.

- Set the **NGC-UIT Port** to **Ethernet** (Label F).
- Set the Raychem **NGC-UIT IP Address** and **NGC-UIT Modbus Address** so that it matches the settings on the NGC-UIT's **System|Comm** screen (Label A/G and Label B/H respectively).
- Set the Raychem **NGC-UIT's Read/Write Port** is **Ethernet** (Label D).

Step 4

- Click on the **Save To XML File** (Label I) text field to bring up the **Enter XML Filename** dialog box.

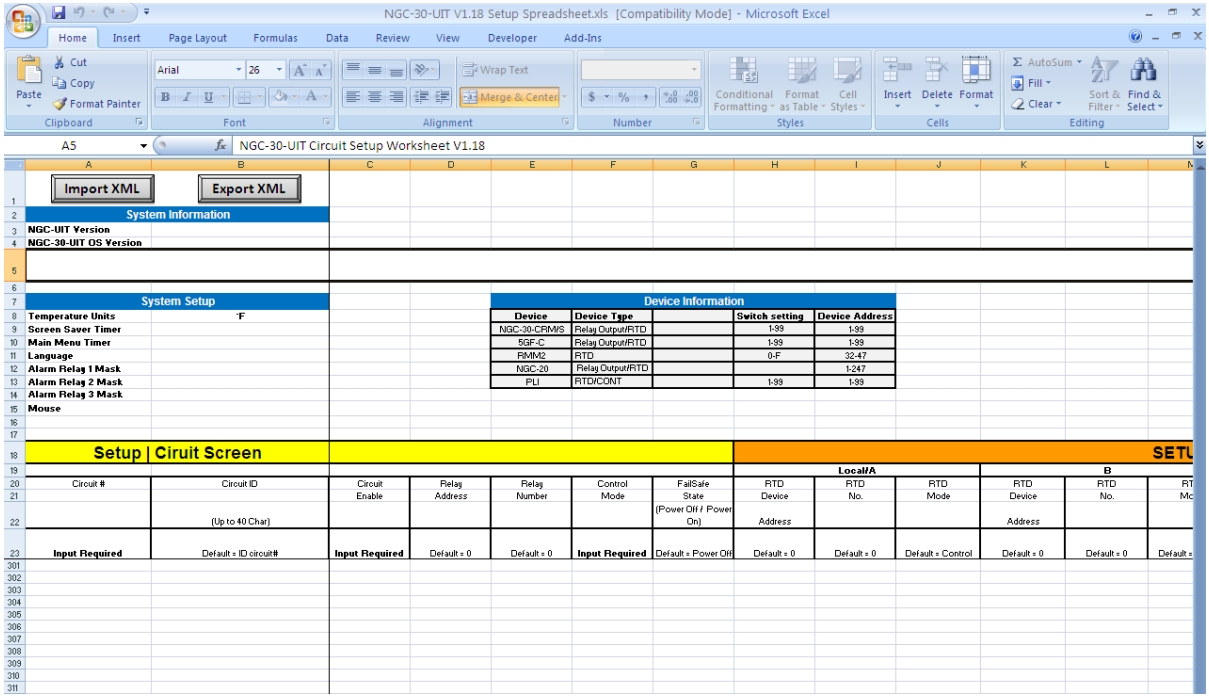
- Type in the name of the file that you wish to create in the **File name** text field**.**
- Click on **Save**. This will fill in the **Save to XML File** text field with the path where the next XML file will be saved.

Step 5

- Click on the **Save Data button** (Label J). The program will then extract the required data from the Raychem NGC-UIT and use it to create an .XML file.

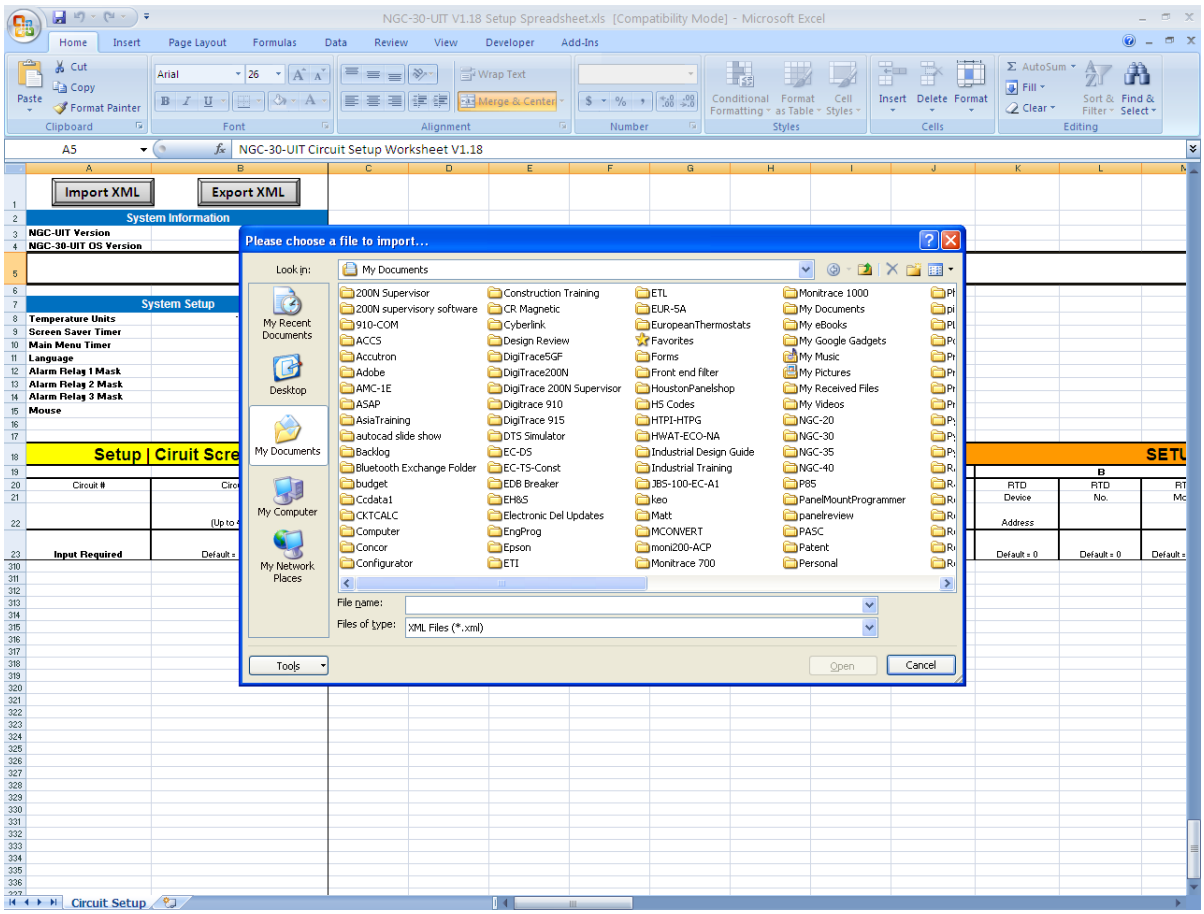
2.3.3 Importing backup configuration data [.XML File] into the NGC-30 setup spreadsheet

- Open the NGC30_UIT setup Spreedsheet.xls spreadsheet and select Enable Macros. The Excel spreadsheet is a predefined template listing all the required information to setup a Circuit in the Raychem NGC-30 system.



- Press the Import XML Button on the top of the Excel Spreadsheet.

- A dialogue box will open to select the file that should be imported.



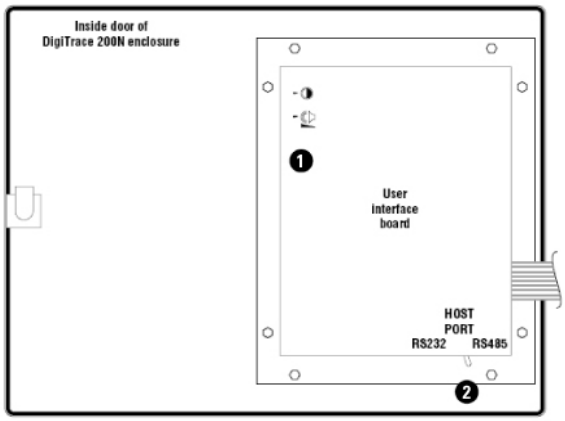
- Select the file that should be imported using the dialogue box.
- Click *Open.*
- The Excel Spreadsheet will be filled out with the NGC-30 UIT backup data.
- Review and change the data on this Excel spreadsheet, if required.
- Export the file into the XML File for entering the updated configuration data into the NGC-30 UIT. Please refer to the Section “Importing XML File into the NGC-UIT”.
- Click on SAVE (This will save the file as an .XLS file to your hard disk for future reference)

2.4 Exporting XML Files from the 200N Controller

Step 1

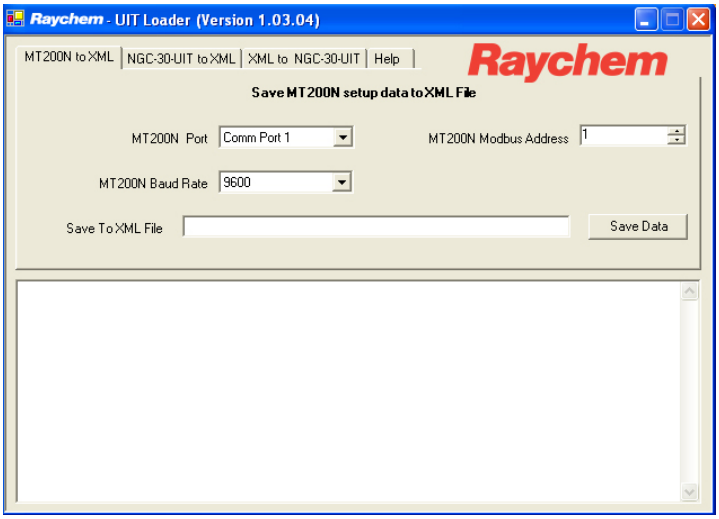
- Connect a laptop computer to the 200N controller using a serial (straight-across) 9 pin male/female cable.
- Connect the male end to the 200N user Interface board (item 1) and the female end to your laptop.
- Confirm that the RS232/RS485 switch at the bottom of the User Interface board is switched on the RS232 position (item 2).

IMPORTANT: If installed, you must remove all RS232 wiring from the main board.



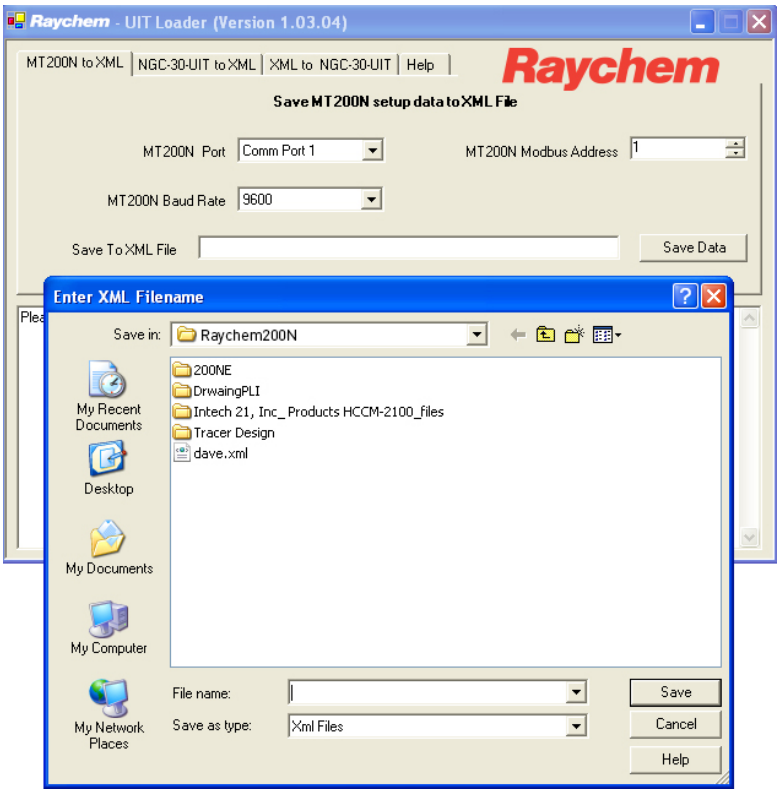
Step 2

- Start the Raychem UIT Loader program by clicking on the icon on your desk top or by going to Start menu/All Programs/Pentair Industrial Heat Tracing Solutions /Raychem.
- Click on the upper tab labeled **MT200N to XML**
- Confirm that the 200N controller's baud rate and Modbus address matches the UIT Loader program. If not, make the necessary changes to the UIT loader program to match the 200N settings.
- Confirm that the communication port on your laptop matches com port listed on the UIT loader program.



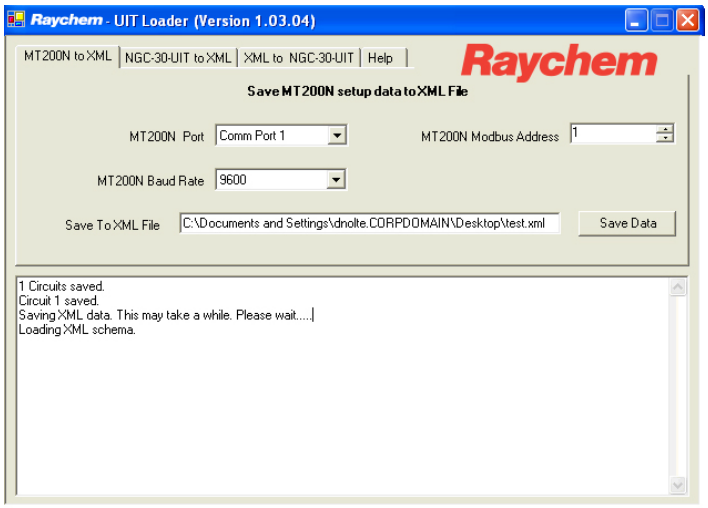
Step 3

- Click on the **Save to XML File** field and an **Enter XML Filename** dialog box opens.
- Fill in the new **File name**
- Click on **Save in**: to direct where you want to save the spreadsheet
- Click on **Save** (This will fill in the **Save to XML File** window with the data entered from dialog box)



Step 4

- Click on the **Save Data** button. The program will then extract the required data from the 200N controller to an XML file.

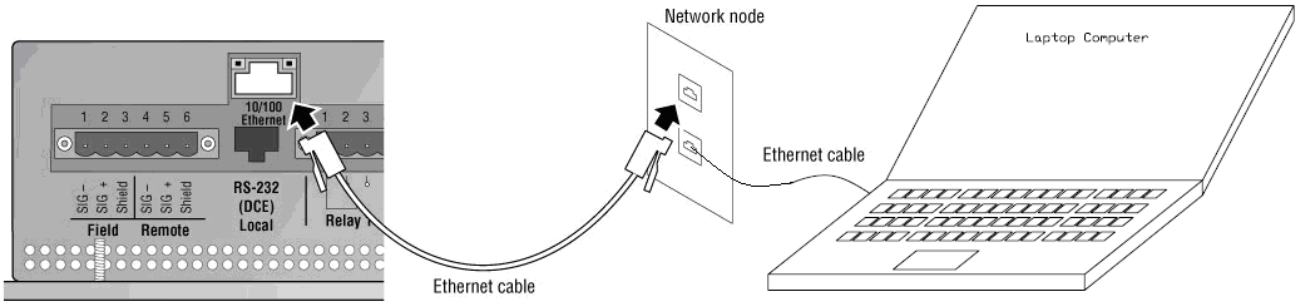


- To upload this data to a Raychem NGC-UIT, go to Section 2.1 Step 4 (when .XML file is saved to flash drive) or Section 2.4.

Appendix 1. Connecting an NGC-UIT to a Computer Using an Ethernet Connection

There are three ways of connecting a NGC-UIT to a computer. Choose the method that best accommodates your situation.

Method 1:

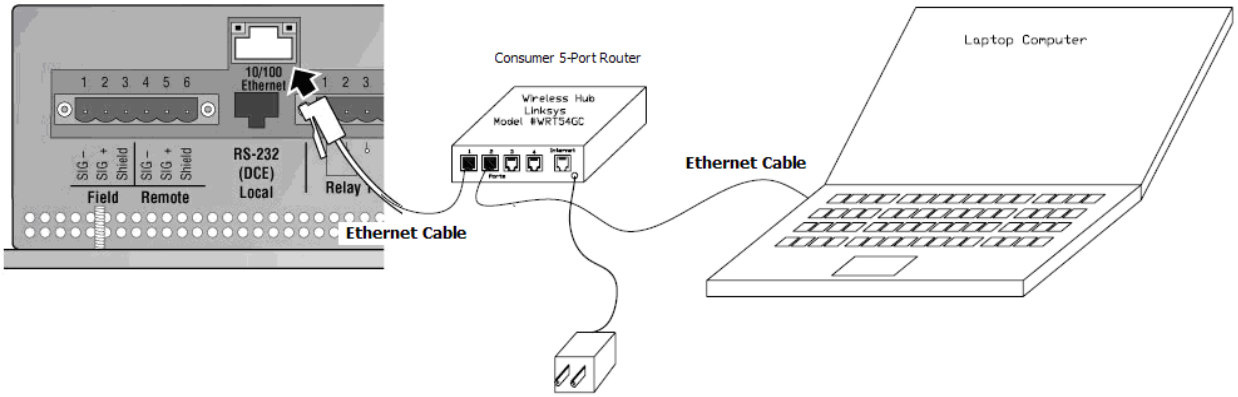


As described in the diagram above, connect both the computer and the NGC-UIT to the same network. A DNS server, if available, will provide all devices connected to the network an IP address. This is the easiest method of successfully connecting the NGC-UIT to the UIT Loader

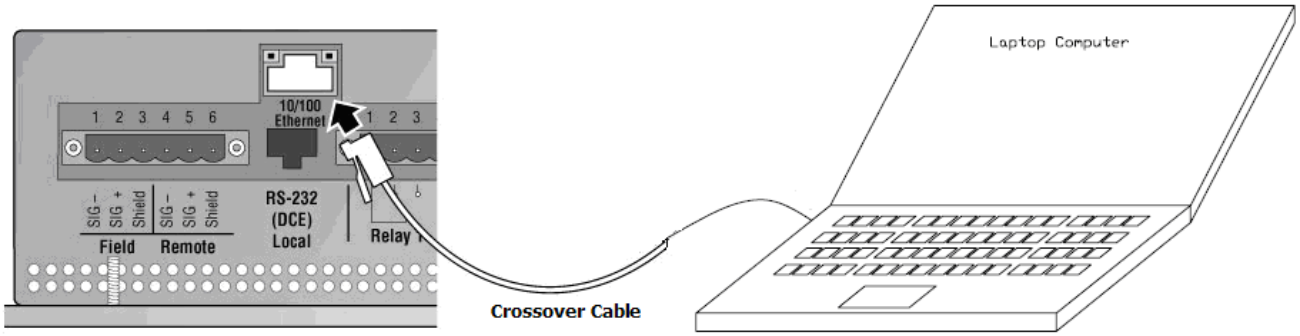
Most office computer networks will utilize a DNS server to supply IP addresses to office computers, but make sure by asking your network administrator for details.

Method 2:

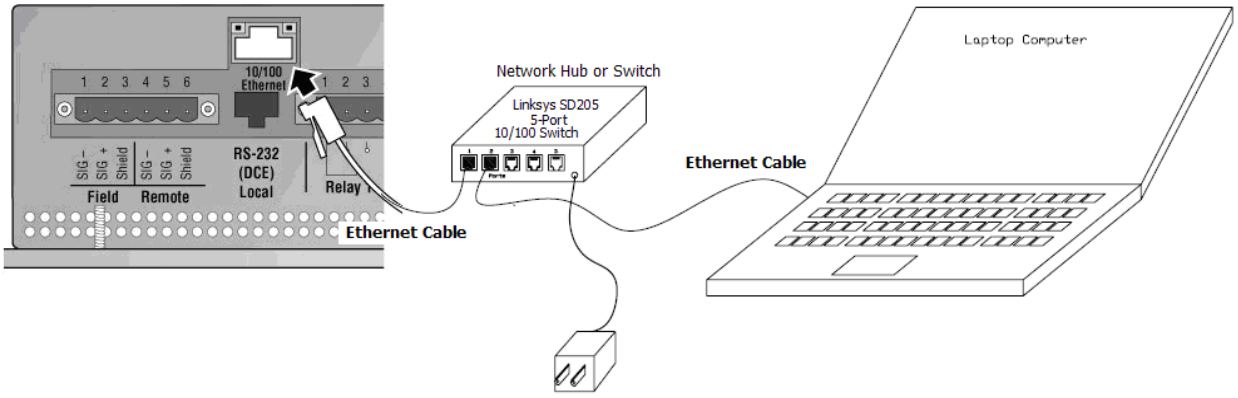
Consumer network routers (such as a Linksys WRT54GC) usually have DNS servers built in and will generate and assign IP addresses to the devices. DNS servers in these devices might need to be enabled. See your router's user manual for more information.



Method 3:



If there is no DNS server present, the NGC-UIT and a computer can be directly connected using a crossover cable (above). If a crossover cable is not available, the two devices can also be connected by using two straight-through cables and a network hub or switch (below).



Using this method, both the computer and the NGC-UIT will assign themselves IP addresses when they detect that they are connected (this may take a few minutes).

IMPORTANT:

1. If the computer is capable of connecting to wireless networks, it is advised that the wireless card be turned off and/or disconnected from the wireless connection. This will prevent any confusion with which network interface is used when communicating with the NGC-UIT.
2. The color of the CAT 5 (Ethernet) cables does not necessarily designate whether it is a straight-through or crossover cable. The only way to verify this is to examine the positions of the wires on both ends of the cable. The ends of a straight through cable should be identical. On a crossover cable, the green/orange and white-green/white-orange cables are reversed on one end.
3. To find the IP address of a Windows PC, click on Start > Run. In the text box, enter in “cmd” without quotes and press enter. In the console screen, type in “ipconfig” without quotes and press enter.
4. There have been instances where Method 2 does not always work. Using Method 1 is recommended in most cases if you choose to use the NGC-UIT Loader using its Ethernet connection.

Appendix 2. Procedure to Release COM ports used by DTS

Description

When Raychem Supervisor is installed on a computer, there are 2 pieces of software that get installed; DTS Client, and the DTS Master Server. The DTS Master Server software is installed as a Windows Service. A Window Service is started whenever the computer is started, and it can be stopped by a user with Admin permissions. The DTS Client software is the User interface that accesses the DTS Master Server.

If a DTS system is setup with field devices, chances are it would require the use of COM port(s). When the DTS Master Server is started, it would acquire exclusive access to those COM ports. If another piece of software were to use any of these COM ports, it would not be allowed. In order to overcome this limitation, one can set all the devices in the DTS system to Offline mode. This would force DTS to close and release those COM ports. Later on one has to set all the devices back to Online mode to restore normal DTS operation. In DTS, when a device is in Offline mode, DTS will stop all communicate to it (i.e. Alarm scanning, Data Trending, ..etc). The onus is for the user to return the devices back to Online mode when they are done with their troubleshooting tasks.

Procedures

1) Setting all devices Offline

In the DTS Client main screen, select the EHT System node in the Tree-view. Use the right mouse click to bring up the context sensitive menu and select the Set Offline option. The Set Device(s) Offline screen will appear. Select the ***Selection*** Tab near the bottom of the screen. A ***Select All*** and ***Toggle Selection*** buttons will be visible. Click the ***Select All*** button to select all the devices, and then click the ***Start*** button to start the process.

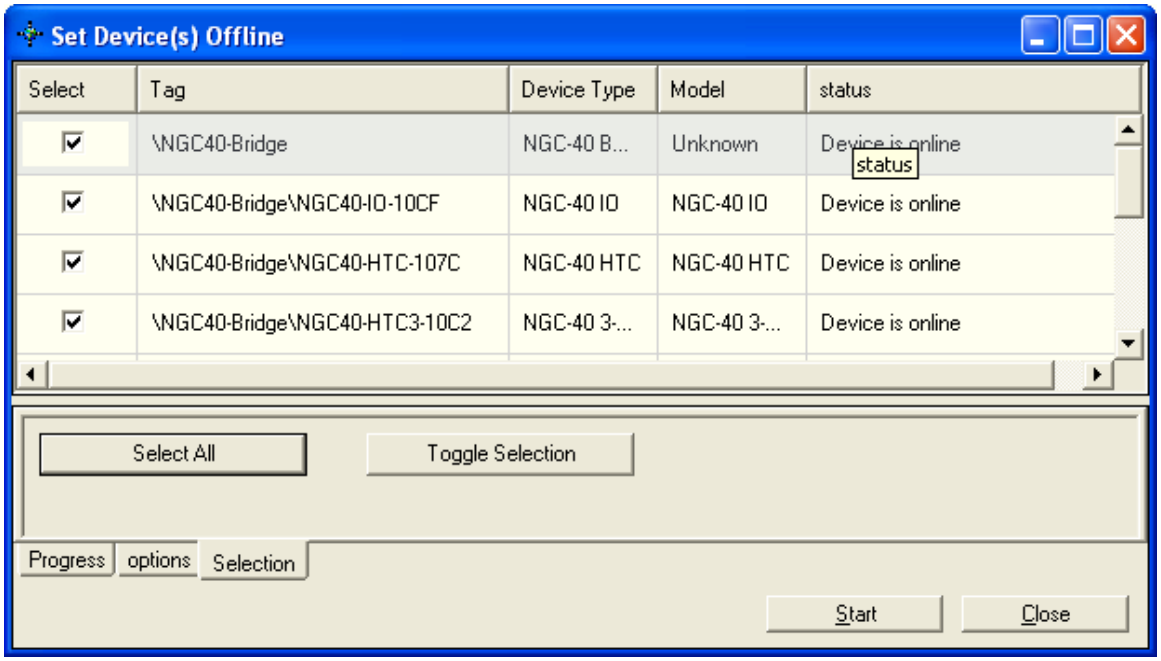


Figure 1.0 Set Device(s) Offline screen.

2) Setting all devices Online

In the DTS Client main screen, select the EHT System node in the Tree-view. Use the right mouse click to bring up the context sensitive menu and select the Set Online option. The Set Device(s) Online screen will appear. Select the ***Selection*** Tab near the bottom of the screen. A ***Select All*** and ***Toggle Selection*** buttons will be visible. Click the ***Select All*** button to select all the devices, and then click the ***Start*** button to start the process.

IMPORTANT: ***Do not check the "Update selected device(s) with the settings" box in the Options tab unless there is a need to synchronize DTS with the field devices. However this will take awhile depending on the number of devices currently installed.***

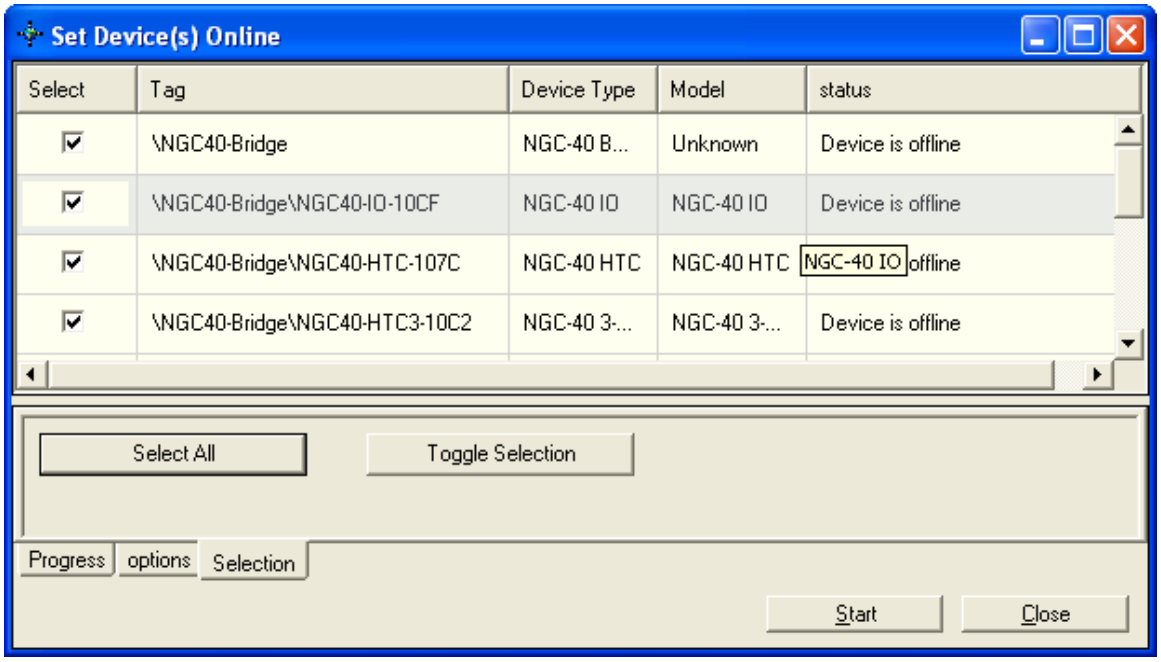


Figure 2.0 Set Device(s) Online

3) Setting a specific device Offline or Online

The DTS Client allows a user to set a particular device Offline or Online, the procedure is similar to the steps described above, however instead of selecting the EHT System node in the Tree-view, the user must select the desired device.

IMPORTANT: ***Unless a device is the only device setup in DTS to use a COM port, setting this device to Offline mode will not cause DTS to release the COM port.***

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